

CLAIM SUMMARY DOCUMENT

The following listing of claims will replace all prior versions and listings of claims in this application.

1. (Currently Amended) A platelet collecting apparatus comprising:
 - a centrifugal separator possessing a rotatable rotor having a blood storing space formed therein and an inlet and an outlet both communicating with said blood storing space and centrifugally separating the blood introduced through said inlet inside said blood storing space by virtue of the rotation of said rotor;
 - a first line for allowing the flow of the blood entering said centrifugal separator;
 - a second line for allowing the flow of the blood emanating from said centrifugal separator;
 - a plasma collecting bag connected to said first line and said second line so as to collect the plasma emanating from said centrifugal separator and return the collected plasma to said centrifugal separator;
 - a platelet collecting bag connected to said second line so as to collect the platelets emanating from said centrifugal separator;
 - a blood delivering pump disposed in said first line; and
 - a controller for controlling the operation of said rotor of said centrifugal separator and the operation of said blood delivering pump,wherein said controller is endowed with a function of increasing ~~varying~~ the rotational frequency of said rotor ~~during the course of blood collection~~ in conformity with the increase of the volume of erythrocytes in ~~amount of the blood entered into~~ said centrifugal separator ~~via said first line~~ during blood collection .

2. (Currently Amended) A platelet collecting apparatus according to claim 1, wherein said controller is further furnished with

~~a function of circulating the plasma collected in said plasma collecting bag as accelerated to said centrifugal separator and~~ increasing the flow rate of circulation by said blood delivering pump to cause the plasma collected in said plasma collecting bag to be circulated with acceleration between said plasma collecting bag and said centrifugal separator; and

a function of varying the rotational frequency of said rotor in conformity with the speed of the circulation of said plasma caused by said function of accelerating circulation.

3. (Original) A platelet collecting apparatus according to claim 2, wherein said controller, while the plasma is circulated as accelerated by said function of accelerating circulation, increases the rotational frequency of said rotor in conformity with the increase of the flow rate of circulation produced by said blood delivering pump.

4. (Canceled)

5. (Currently Amended) A platelet collecting apparatus according to ~~any of~~ claim 1, wherein said controller during the course of blood collection sequentially increases the rotational frequency of said rotor to a predetermined rotational frequency in conformity with the amount of the blood entered into said centrifugal separator.

6. (Currently Amended) A platelet collecting apparatus according to claim 1, which is further furnished with an input device for effecting entry of ~~the~~ a hematocrit value and wherein said controller is furnished with a function of computing the rotational frequency of the rotor of said centrifugal separator at the end of ~~the~~ a first round of blood collection based on the input of the hematocrit value and said controller, during the course of blood collection, sequentially increases the rotational frequency of said rotor to the computed rotational frequency of said rotor in conformity with the amount of the blood entered into said centrifugal separator.

7. (Currently Amended) A platelet collecting apparatus according to claim 1, which is further furnished with a measuring device for measuring ~~the~~ a hematocrit value and wherein said controller is furnished with a function of computing the rotational frequency of the rotor of said centrifugal separator at the end of ~~the~~ a first round of blood collection based on the determined hematocrit value and said controller, during the course of blood collection, sequentially increases the rotational frequency of said rotor to the computed rotational frequency of said rotor in conformity with the amount of the blood entered into said centrifugal separator.

8. (Original) A platelet collecting apparatus according to claim 1, which is further furnished with a memory device for memorizing the amount of blood delivered per unit amount of operation of said blood delivering pump and a detecting device for detecting the amount of operation of said blood delivering pump and wherein said controller computes the amount of blood entered in said centrifugal separator based

on the memorized amount of blood delivered per unit amount of operation and the detected amount of operation.

9. (Original) A platelet collecting apparatus according to claim 8, wherein said blood delivering pump is formed of a roller pump and said detecting device is formed of a means for detecting the amount of rotation of said roller pump.

10. (Currently Amended) A platelet collecting apparatus comprising:

- a centrifugal separator possessing a rotatable rotor having a blood storing space formed therein and an inlet and an outlet both communicating with said blood storing space and centrifugally separating the blood introduced through said inlet inside said blood storing space by virtue of the rotation of said rotor;
- a first line for allowing the flow of the blood entering said centrifugal separator;
- a second line for allowing the flow of the blood emanating from said centrifugal separator;
- a plasma collecting bag connected to said first line and said second line so as to collect the plasma emanating from said centrifugal separator and return the collected plasma to said centrifugal separator;
- a platelet collecting bag connected to said second line so as to collect the platelets emanating from said centrifugal separator;
- a blood delivering pump disposed in said first line; and
- a controller for controlling the ~~rotational frequency~~ operation of said rotor of said centrifugal separator and the operation of said blood delivering pump,

wherein said controller is endowed with

~~a function of circulating the plasma collected in said plasma collecting bag as accelerated to said centrifugal separator~~ increasing the flow rate of circulation by said blood delivering pump to cause the plasma collected in said plasma collecting bag to be circulated with acceleration between said plasma collecting bag and said centrifugal separator; and

a function of ~~varying~~ increasing the rotational frequency of said rotor in conformity with the ~~speed of the circulation of said plasma caused by said function of accelerating circulation~~ increase in the flow rate of circulation produced by said blood delivering pump.

11. (Canceled)

12. (New) A method for collecting blood platelets by the use of a platelet collecting apparatus comprising;

a centrifugal separator possessing a rotatable rotor having a blood storing space formed therein and an inlet and an outlet both communicating with said blood storing space and centrifugally separating the blood introduced through said inlet inside said blood storing space by virtue of the rotation of said rotor;

a first line for allowing the flow of the blood entering said centrifugal separator;

a second line for allowing the flow of the blood emanating from said centrifugal separator;

a plasma collecting bag connected to said first line and said second line so as to collect the plasma emanating from said centrifugal separator and return the collected plasma to said centrifugal separator;

a platelet collecting bag connected to said second line so as to collect the platelets emanating from said centrifugal separator;

a blood delivering pump disposed in said first line; and

a controller for controlling the operation of said rotor of said centrifugal separator and the operation of said blood delivering pump,

wherein said method comprises blood collection in which the rotational frequency of said rotor sequentially increases to a predetermined rotational frequency in conformity with the amount of blood entered into said centrifugal separator via said first line during the course of blood collection.

13. (New) A method for collecting platelet according to claim 12, wherein said blood collection involves increasing the rotational frequency of said rotor in conformity with the increase of the volume of erythrocytes in said centrifugal separator during the course of blood collection.

14. (New) A method for collecting platelet according to claim 12, further comprising plasma circulation in which the plasma collected in said plasma collecting bag is circulated between said plasma collecting bag and said centrifugal separator subsequent to said blood collection.

15. (New) A method for collecting platelet according to claim 14, wherein in said plasma circulation the flow rate of circulation by said blood delivering pump is increased to cause the plasma collected in said plasma collecting bag to be

circulated with acceleration between said plasma collecting bag and said centrifugal separator.

16. (New) A method for collecting platelet according to claim 14, wherein in said plasma circulation, while the plasma is circulated with acceleration, the rotational frequency of said rotor is increased in conformity with the increase of the flow rate of circulation produced by said blood delivering pump.

17. (New) A method for collecting platelet according to claim 14, further comprising platelet collection in which the flow rate of circulation by said blood delivering pump is increased to cause the plasma collected in said plasma collecting bag to be fed with acceleration from said plasma collecting bag to said centrifugal separator subsequent to said plasma circulation.